

IN THE CLAIMS:

--1 (Currently amended). A system for facilitating secure encrypted communications over a network with a network interface ~~configured to provide unencrypted sessions with web sites, wherein said network interface includes~~ including a voice browser for receiving voice signals from a user and accessing and navigating web sites in accordance with said received voice signals, said system comprising:

a security module for said network interface to facilitate retrieval of information from said user in the form of voice signals and to detect a secure web site server providing encrypted sessions and identify security related information received by said network interface from said secure web site server in response to said voice browser accessing ~~said a secure web site~~ of said secure web server based on voice commands from said user, wherein said security related information includes information enabling a secure encrypted session with said secure web site server;

a storage unit to store remote from said network interface voice and security information associated with authorized users of said system, wherein said security information includes information enabling negotiation of parameters for secure encrypted sessions with secure web sites servers; and

a security system to communicate with said security module and said storage unit and to process for said network interface said identified security information to enable said secure encrypted session, wherein said security system includes:

a verification module to verify said user as an authorized system user based on a comparison of said user voice signals with said stored voice information;

a retrieval module to retrieve said security information of said verified user from said storage unit; and

a negotiation module to receive said identified security information from said security module and negotiate communication parameters with said secure web site server utilizing said retrieved security information to facilitate said secure encrypted session between ~~that site~~ said secure web server and said voice browser.

2 (Original). The system of claim 1 wherein said network includes the Internet.

3 (Original). The system of claim 1 wherein said network interface is in communication with a communications device located remotely of said network interface, and said security module facilitates retrieval of said user voice signals from said communications device.

4 (Original). The system of claim 3 wherein said communications device includes a telephone.

5 (Original). The system of claim 3 wherein said communications device includes a computer system having an audio input device.

6 (Original). The system of claim 5 wherein said audio input device includes a microphone.

7 (Currently amended). The system of claim 1 wherein said security module includes:

an identification module to identify said security related information received by said network interface from said secure web ~~site~~ server;

a communications module to facilitate communications with said security system and said network interface, wherein said communications module includes:

a send module to provide said user information and said identified security information to said security system to facilitate verification of said user and negotiation of said communication parameters;

a receive module to receive a request for said user information, verification results, responses to said identified security information and said negotiated communication parameters from said security system; and

an interface module for providing said responses and said negotiated parameters to said network interface to facilitate secure communications over said network between said secure web ~~site~~ server and said voice browser; and

a user interface module to facilitate said user information request for retrieval of said user information and to provide said verification results to said user.

8 (Previously presented). The system of claim 7 wherein said security system further includes:

an identification verification module to validate an identification within said user information associated with an authorized system user;

an access module to retrieve said voice information from said storage unit associated with said identification;

a selection module to select portions of said retrieved voice information and generate said user information request, wherein said generated request includes a request for user information corresponding to said selected portions of said retrieved voice information, and wherein said verification module verifies said user by comparing said user voice signals received from said security module in response to said user information request with said stored voice information associated with an authorized user identified by said identification and said negotiation module processes said identified security information received from said security module and generates said responses thereto with said retrieved security information to negotiate said communication parameters; and

a security communications module to facilitate communications with said security module, wherein said security communications module includes:

a security send module to provide said user information request, said verification results, said generated responses and said negotiated parameters to said security module; and

a security receive module to receive said user voice signals and said identified security information from said security module.

9 (Original). The system of claim 1 wherein said storage unit includes a database.

10 (Original). The system of claim 2 wherein said stored security information includes private keys and certificates of said authorized system users.

11 (Original). The system of claim 1 further including:

an enrollment module to retrieve voice signals from said authorized system users and process said authorized system user voice signals to produce said voice information for storage in said storage unit.

12 (Currently amended). A program product apparatus having a computer readable medium with computer program logic recorded thereon for facilitating secure encrypted communications over a network with a network interface ~~configured to provide unencrypted sessions with web sites, wherein said network interface includes~~ including a voice browser for receiving voice signals from a user and accessing and navigating web sites in accordance with said received voice signals, said program product apparatus comprising:

a security module for said network interface to facilitate retrieval of information from said user in the form of voice signals and to detect a secure web site server providing encrypted sessions and identify security related information received by said network interface from said secure web site server in response to said voice browser accessing ~~said a secure web site of said secure web server~~ based on voice commands from said user, wherein said security related information includes information enabling a secure encrypted session with said secure web site server;

a storage module to store remote from said network interface voice and security information associated with authorized users, wherein said security information includes information enabling negotiation of parameters for secure encrypted sessions with secure web sites servers; and

a secure communications module for a security system to communicate with said security module and said storage module and to process for said network interface said identified security information to enable said secure encrypted session, wherein said secure communications module includes:

a verification module to verify said user as an authorized user based on a comparison of said user voice signals with said stored voice information;

a retrieval module to retrieve said security information of said verified user from said storage module; and

a negotiation module to receive said identified security information from said security module and negotiate communication parameters with said secure web ~~site~~ server utilizing said retrieved security information to facilitate said secure encrypted session between ~~that site~~ said secure web server and said voice browser.

13 (Currently amended). The program product apparatus of claim 12 wherein said security module includes:

an identification module to identify said security related information received by said network interface from said secure web ~~site~~ server;

a communications module to facilitate communications with said secure communications module and said network interface, wherein said communications module includes:

a send module to provide said user information and said identified security information to said secure communications module to facilitate verification of said user and negotiation of said communication parameters;

a receive module to receive a request for said user information, verification results, responses to said identified security information and said negotiated communication parameters from said secure communications module; and

an interface module for providing said responses and said negotiated parameters to said network interface to facilitate secure communications over said network between said secure web site server and said voice browser; and

a user interface module to facilitate said user information request for retrieval of said user information and to provide said verification results to said user.

14 (Previously presented). The program product apparatus of claim 13 wherein said secure communications module further includes:

an identification verification module to validate an identification within said user information associated with an authorized user;

an access module to retrieve said voice information from said storage module associated with said identification;

a selection module to select portions of said retrieved voice information and generate said user information request, wherein said generated request includes a request for user information corresponding to said selected portions of said retrieved voice information, and wherein said verification module verifies said user by comparing said user voice signals received from said security module in response to said user information request with said stored voice information associated with an authorized user identified by said identification and said negotiation module processes said identified security information received from said security module and generates

said responses thereto with said retrieved security information to negotiate said communication parameters; and

a security communications module to facilitate communications with said security module, wherein said security communications module includes:

a security send module to provide said user information request, said verification results, said generated responses and said negotiated parameters to said security module; and

a security receive module to receive said user voice signals and said identified security information from said security module.

15 (Original). The program product apparatus of claim 12 further including:

an enrollment module to retrieve voice signals from said authorized users and process said authorized user voice signals to produce said voice information for storage in said storage module.

16 (Currently amended). A carrier signal having computer program logic embedded therein causing an apparatus to facilitate secure encrypted communications over a network with a network interface ~~configured to provide unencrypted sessions with web sites, wherein said network interface includes~~ including a voice browser for receiving voice signals from a user and accessing and navigating web sites in accordance with said received voice signals, said carrier signal comprising:

a security module for said network interface to facilitate retrieval of information from said user in the form of voice signals and to detect a secure web site server providing encrypted sessions and identify security related information received by said network interface from said



secure web site server in response to said voice browser accessing ~~said a~~ secure web site of said secure web server based on voice commands from said user, wherein said security related information includes information enabling a secure encrypted session with said secure web site server;

a storage module to store remote from said network interface voice and security information associated with authorized users, wherein said security information includes information enabling negotiation of parameters for secure encrypted sessions with secure web sites servers; and

a secure communications module for a security system to communicate with said security module and said storage module and to process for said network interface said identified security information to enable said secure encrypted session, wherein said secure communications module includes:

a verification module to verify said user as an authorized system user based on a comparison of said user voice signals with said stored voice information;

a retrieval module to retrieve said security information of said verified user from said storage module; and

a negotiation module to receive said identified security information from said security module and negotiate communication parameters with said secure web site server utilizing said retrieved security information to facilitate said secure encrypted session between ~~that site~~ said secure web server and said voice browser.

17 (Currently amended). The carrier signal of claim 16 wherein said security module includes:

an identification module to identify said security related information received by said network interface from said secure web site server;

a communications module to facilitate communications with said secure communications module and said network interface, wherein said communications module includes:

a send module to provide said user information and said identified security information to said secure communications module to facilitate verification of said user and negotiation of said communication parameters;

a receive module to receive a request for said user information, verification results, responses to said identified security information and said negotiated communication parameters from said secure communications module; and

an interface module for providing said responses and said negotiated parameters to said network interface to facilitate secure communications over said network between said secure web site server and said voice browser; and

a user interface module to facilitate said user information request for retrieval of said user information and to provide said verification results to said user.

18 (Previously presented). The carrier signal of claim 17 wherein said secure communications module includes:

an identification verification module to validate an identification within said user information associated with an authorized user;

an access module to retrieve said voice information from said storage module associated with said identification;

a selection module to select portions of said retrieved voice information and generate said user information request, wherein said generated request includes a request for user information corresponding to said selected portions of said retrieved voice information, and wherein said verification module verifies said user by comparing said user voice signals received from said security module in response to said user information request with said stored voice information associated with an authorized user identified by said identification and said negotiation module processes said identified security information received from said security module and generates said responses thereto with said retrieved security information to negotiate said communication parameters; and

a security communications module to facilitate communications with said security module, wherein said security communications module includes:

a security send module to provide said user information request, said verification results, said generated responses and said negotiated parameters to said security module; and

a security receive module to receive said user voice signals and said identified security information from said security module.

19 (Original). The carrier signal of claim 16 further including:

an enrollment module to retrieve voice signals from said authorized users and process said authorized user voice signals to produce said voice information for storage in said storage module.

20 (Currently amended). A method of facilitating secure encrypted communications over a network with a network interface ~~configured to provide unencrypted sessions with web~~

~~sites, wherein said network interface includes~~ including a voice browser for receiving voice signals from a user and accessing and navigating web sites in accordance with said received voice signals, said method comprising:

(a) retrieving, via a security module, information from said user in the form of voice signals and detecting a secure web ~~site~~ server providing encrypted sessions and identifying security related information received by said network interface from said secure web ~~site~~ server in response to said voice browser accessing ~~said a secure web site~~ of said secure web server based on voice commands from said user, wherein said security related information includes information enabling a secure encrypted session with said secure web ~~site~~ server;

(b) storing remote from said network interface voice and security information associated with authorized users in a storage unit, wherein said security information includes information enabling negotiation of parameters for secure encrypted sessions with secure web ~~sites~~ servers;

(c) verifying said user as an authorized user based on a comparison of said user voice signals with said stored voice information via a security system;

(d) retrieving, via said security system, said security information of said verified user from said storage unit; and

(e) receiving said identified security information from said security module at said security system and negotiating communication parameters for said network interface with said secure web ~~site~~ server utilizing said retrieved security information to facilitate said secure encrypted session between ~~that site~~ said secure web server and said voice browser.

21 (Original). The method of claim 20 wherein said network includes the Internet.

22 (Original). The method of claim 20 wherein said network interface is in communication with a communications device located remotely of said network interface, and step (a) further includes:

(a.1) retrieving said user voice signals from said communications device.

23 (Original). The method of claim 22 wherein said communications device includes a telephone.

24 (Original). The method of claim 22 wherein said communications device includes a computer system having an audio input device.

25 (Original). The method of claim 24 wherein said audio input device includes a microphone.

26 (Currently amended). The method of claim 20 wherein step (a) further includes:

(a.1) providing said user information to said security system to facilitate verification of said user in response to a request from said security system for user information;

(a.2) receiving verification results from said security system and providing said verification results to said user;

(a.3) providing said identified security information to said security system to facilitate negotiation of said communication parameters;

(a.4) receiving responses to said identified security information and said negotiated communication parameters from said security system; and

(a.5) providing said responses and said negotiated parameters to said network interface to facilitate secure communications over said network between said secure ~~network-site~~ web server and said voice browser.

27 (Currently amended). The method of claim 26 wherein step (c) further includes:

(c.1) validating an identification within said user information associated with an authorized user;

(c.2) retrieving said voice information from said storage unit associated with said identification;

(c.3) selecting portions of said retrieved voice information and generating said user information request, wherein said generated request includes a request for user information corresponding to said selected portions of said retrieved voice information; and

(c.4) verifying said user by comparing said user voice signals received from said security module in response to said user information request with said stored voice information associated with an authorized user identified by said identification and providing said verification results to said security module; and

step (e) further includes:

(e.1) processing said identified security information received from said security module and generating said responses thereto with said retrieved security information to negotiate said communication parameters; and

(e.2) providing said responses and negotiated parameters to said security module to facilitate secure communications over said network between said secure web site server and said voice browser.

28 (Original). The method of claim 20 wherein said storage unit includes a database.

29 (Original). The method of claim 21 wherein said stored security information includes private keys and certificates of said authorized users.

30 (Previously presented). The method of claim 20 further including the step of:

(f) retrieving voice signals from said authorized users and processing said authorized user voice signals to produce said voice information for storage in said storage unit.

31 - 36(Canceled).--